

Work Order ID 87012

87012

Page 1

Monday, July 09, 2012 3:49:33 PM

Item ID: D350-636-014

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Skidtube RH

Stop *NS2*

Start Date: 7/10/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 7/07/10 Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2750

F

D3492

C

SP

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-014 CHG 006

DAS
16
12/07/27

for MLJ 12-7-26

87012

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

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SPC (Y/N):

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Stop ***NR2***

Sequence ID/
Work Center ID

Operation
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Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00

110

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-4 details). Drill using drill Jig DT8150 & DT8864A for first side only DT8864B for second side (detail B)

7- Clecko DT8864B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***

8- Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)

9- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10- Open up holes of Detail A to 0.297" (total of 2 holes per side)

BE 12/07/12

SAD 12-07-13

BE 12/07/12

SAD 12-07-13

W/O:		WORK ORDER CHANGES					
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Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: M122130 BE 12/07/12

12-Grind welds flush as per Dwg D2750 BE 12/07/12

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

Quality Control

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

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Page 4

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Tooling:

Date:

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QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

1 76 12-7-16

150

QC7-Inspect Chemical Conversion Coat

0.00

150

QC

Memo

0.00

Quality Control

DP 12-7-18

W/O:		WORK ORDER CHANGES					
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Page 5

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1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
160									
Skidtubes	Memo	0.00							
Skidtubes	1-Open up holes section BE-BE 0.500" (4 per side) as per dwg D2750								
	2-Open holes section BC-BC 0.3125" (4 per side)								
	3-Open up holes of Detail AB and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.								
	4-Chamfer holes of section BE-BE, BC-BC, AB and ground handling (welding instructions on sheet 11)								
	5-Deburr and blow out all chips from inside of tube. Prepare tube for welding. remove alodine as required.								
	6-Bond web D2739 in place as per QSI 015 A/R Sikaflex-291 batch: <u>122130</u> exp. date: <u>13-3-14</u> - DC 12/07/18								
	7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 11) A/R Aluminum Rod batch: <u>M122130</u> BE 12/07/20								
	8-Grind welds flush as per Dwg D2750 SAD 12-07-23								
	9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750								
	10-Deburr holes								

DC 12/07/18

12/07/23

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Page 6

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1

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC10- Inspect visual per QSI004- ground welds	0.00							
170									
QC	Memo	0.00							
Quality Control									
180	QC5- Inspect part completeness to step on W/O	0.00							
180									
QC	Memo	0.00							
Quality Control									
190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								

W/O:		WORK ORDER CHANGES					
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Monday, July 09, 2012 3:49:33 PM

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Page 7

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1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

210

QC3- Inspect Part Finish

0.00

210

QC

Quality Control

Memo

Inspect for foreign object per QSI 024

0.00

IX  12/07/25IRK  (2P) 12/07/25

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Monday, July 09, 2012 3:49:33 PM

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Page 8

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NS2

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1

Cust Item ID:

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1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230

0.00

230

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per dwg D2750

2-assemble o'ring as per dwg D3492 and apply o'ring lube
A/R 55-o'ring lube batch: 110348

3-Assemble tube hardware as per dwg D2750 sikaflex batch: 122130

4-Inspect For Foreign Objects

5-Spray inside of tube with "LPS-3" batch: N/A

6-Install blade fitting D3488-041, wearshoe
SIKA FLEX 241

BATCH: 122130
EXP DATE: 14/07

7-assemble o'ring to plug as per dwg D3492 and apply o'ring lube
A/R 55-o'ring lube batch: 110348

8-Coat all exposed fasteners with "LPS Procyon" batch: 114596

1 RH Q SP 12/07/25

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Monday, July 09, 2012 3:49:33 PM

87012

Page 9

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1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control

DAS
16
9-89
12/6/26

250

Pick Kit

0.00

250

Packaging

Memo

0.00

Packaging

1/x
SP
12-7-27

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

DAS
16
9-89
12/6/27

Dart Aerospace Ltd

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Page 10

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Approvals:

Process Plan:

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Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

0.00

270

Packaging

Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-014

*I**6/12/12*

280

QC21- Final Inspection - Work Order Release

0.00

280

QC

Memo

0.00

Quality Control

*12/7/30**1207-27*

Dart Aerospace Ltd

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Dart Aerospace Ltd

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Picklist Print

Monday, July 09, 2012 3:49:30 PM

Page 2

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Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 230 Each 1,611.0000 34 34 34 12/07/25

Bolt

Location	Loc Qty	Loc Code
FP001	7	
115835	7	
ST350	1604	
116419	28	
117343	13	
117764	7	
117872	2	
119749	23	
120423	28	
121255 ✓	469	16
121444	34	
121708	500	
122141 ✓	500	18

AN3C6A Purchased No 230 Each 285.0000 4 4 4 12/07/25

BOLT

Location	Loc Qty	Loc Code
FP001	1	
111982	1	
ST351	284	
111982	2	
116419	23	
116549	2	
116704	12	
117619	10	
117688	1	
117872	5	
118422	13	
119449	21	
120423	3	
120693	118	
121682 ✓	74	

Monday, July 09, 2012 3:49:31 PM

Shop Packet Print

Page 2

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Monday, July 09, 2012 3:49:31 PM

Page 3

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Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

AN6C44A Purchased No 230 Each 104.0000

BOLT

4 12/07/25

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST343	102	
121013	11	
121440	41	
122204 ✓	50	

AN8C21A Purchased No 250 Each 77.0000

BOLT

2 12/07/25

Location	Loc Qty	Loc Code
ST343	77	
118758	3	
121275	24	
122204 ✓	50	

AN8C35A Purchased No 230 Each 61.0000

BOLT

1 12/07/25

Location	Loc Qty	Loc Code
FP002	60	
115960	1	
118286	9	
121275 ✓	50	
ST346	1	
114442	0	
115188	0	
115960	1	

AN960C10L washer *NAS1149C0332R ✓ Purchased No 230 Each 21.0000

122063 ✓

38 38 12/07/25

Location	Loc Qty	Loc Code
ST	21	
107534	21	

Monday, July 09, 2012 3:49:31 PM

Shop Packet Print

Page 3

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Monday, July 09, 2012 3:49:31 PM

Page 4

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Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110 Each 33.0000

1

1

Extrusion Bent

Location	Loc Qty	Loc Code
LG	33	
66875	7	
73253	1	
75021	1	
75022	1	
75023	1	
81330	4	
83305	1	
86330	17	

BER 12/07/11

D2739

Manufactured No

160 Each 14.0000

1

1

350 I Beam

Location	Loc Qty	Loc Code
LG	14	
72155	1	
81508	1	
83448	2	
83548	1	
85486	5	
86615	4	

DC 12/07/18

D2741

Manufactured No

250 Each 34.0000

1

Blade, 350 Skidtube

Location	Loc Qty	Loc Code
ST	-10	
ST466	44	
71856	1	
83135	33	

SP 12-7-216

Monday, July 09, 2012 3:49:31 PM

Shop Packet Print

Page 4

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Monday, July 09, 2012 3:49:31 PM

Page 5

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D2743
Crossbolt Spacer

Manufactured No

160 Each 152.0000 8 8

BE 12/07/20
B85459 x8

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	78	
81965	23	
83262	55	
LG001	74	
67766	4	
68251	3	
73403	64	
74445	1	
79517	2	

D2744
Cap

Manufactured No

160 Each 60.0000 1 1

BE 12/07/12

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG002	60	
62715	1	
83412	21	
85506	38	

D2745
Bushing

Manufactured No

230 Each 258.0000 8 8

8 (2P) 12/07/25

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	206	
79518	6	
85416 ✓	200	
FP001	52	
69529	1	
76142	1	
83260	50	

Monday, July 09, 2012 3:49:32 PM

Shop Packet Print

Page 5

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:49:32 PM

Page 6

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3488-042 Manufactured No 230 Each 28.0000

Blade Fitting Assembly, RH

1 1 12/07/25

Location	Loc Qty	Loc Code
FP	-1	
83417	11	
FP002	29	
85734 ✓	5	
86054	12	

D3490-1 Manufactured No 160 Each 79.0000

Cross Bolt Spacer

4 4 8/12/07/20

Location	Loc Qty	Loc Code
LG	68	
81976	2	
85419	66	
LG001	11	
62450	2	
74875	4	
77042	3	
83269	2	

D3490-5 Manufactured No 160 Each 31.0000

Cross Bolt Spacer

4 4 8/12/07/20

Location	Loc Qty	Loc Code
LG001	31	
83373	31	

D3492-1 Manufactured No 230 Each 205.0000

Plug

8 8 12/07/25

Location	Loc Qty	Loc Code
FP002	198	
69531	8	
74444	2	
76235	4	
83259 ✓	184	
FP-A	7	
83098	7	

Monday, July 09, 2012 3:49:32 PM

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Page 6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Monday, July 09, 2012 3:49:32 PM

Page 7

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-5
Plug

Manufactured No

230 Each 135.0000

8

8 8 12/07/25

Location

Loc Qty

Loc Code

fpa

135

83100 ✓

34

83530

101

D3493-1

Washer

Manufactured No

250 Each 97.0000

2

2 8 12/07/25

Location

Loc Qty

Loc Code

ST050

97

77573

1

82023

2

83097

94

D3535-25

Wearshoe

Manufactured No

230 Each 32.0000

1

1 2x 12/07/25

Location

Loc Qty

Loc Code

FP001

32

62233

1

81357

1

83387

17

83899 ✓

13

D3536-25

Gasket

Manufactured No

230 Each 22.0000

1

1 12/07/25

Location

Loc Qty

Loc Code

FP

22

83391

6

83900 ✓

16

Monday, July 09, 2012 3:49:32 PM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Monday, July 09, 2012 3:49:32 PM

Page 8

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No 230 Each 112.0000 3 3 12/07/25
Wearpad

Location	Loc Qty	Loc Code
FP002	112	
81362	3	
83254	1	
83255	3	
83256	20	
85457 ✓	37	
85458	48	

D3631-1 Manufactured No 230 Each 283.0000 8 8 12/07/25
Washer

Location	Loc Qty	Loc Code
FG	268	
81874	2	
83588 ✓	266	
ST072	15	
68062	2	
75548	13	

D3791-1 Manufactured No 230 Each 26.0000 1 1 12/07/25
Wearplate

Location	Loc Qty	Loc Code
FP002	26	
62239	2	
83392	12	
83902 ✓	12	

D3793-1 Manufactured No 230 Each 26.0000 1 1 12/07/25
Wearshoe

Location	Loc Qty	Loc Code
FP001	26	
82171	2	
83393	11	
83903 ✓	13	

Monday, July 09, 2012 3:49:32 PM

Shop Packet Print

Page 8

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

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Monday, July 09, 2012 3:49:32 PM

Page 9

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3793-3	Manufactured	No	230	Each	28.0000	1	1	12/07/25
Wearshoe								

Location	Loc Qty	Loc Code
FP001	28	
83394 ✓	16	
83901	12	

D3794-1	Manufactured	No	230	Each	24.0000	1	1	12/07/25
Gasket								

Location	Loc Qty	Loc Code
FP	4	
82167	4	
FP002	20	
83395 ✓	20	

D3794-3	Manufactured	No	230	Each	45.0000	1	1	12/07/25
Gasket								

Location	Loc Qty	Loc Code
FP	19	
83396 ✓	19	
FP002	26	
74530	2	
86243	24	

MS21043-6	Purchased	No	230	Each	586.0000	4	4	12/07/25
NUT								

Location	Loc Qty	Loc Code
FG	20	
103693	20	
ST301	566	
117887	2	
118384 ✓	64	
120308	500	

Monday, July 09, 2012 3:49:32 PM

Shop Packet Print

Page 9

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:49:32 PM

Page 10

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

94.0000

1

NUT

Location

Loc Qty

Loc Code

304

39

121185 ✓

22

121349

17

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

ST321

50

122141

50

MS21083C8

Purchased

No

250

Each

94.0000

2

NUT

Location

Loc Qty

Loc Code

304

39

121185

22

121349

17

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

ST321

50

122141

50

Monday, July 09, 2012 3:49:33 PM

Shop Packet Print

Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Monday, July 09, 2012 3:49:33 PM

Page 11

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0832R
WASHER

Purchased

No

230

Each

250.0000

1

1

12/07/25

Location

Loc Qty

Loc Code

ST297

250

114915 ✓

250

NAS1149D0863J
WASHER

Purchased

No

250

Each

221.0000

2

2

SP

Location

Loc Qty

Loc Code

ST298

221

118078

34

119307

1

120308

86

121556

100

2x

NAS1515H3L
WASHER

Purchased

No

230

Each

311.0000

4

4

12/07/25

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

271

118686

3

120360

11

121556

57

122151 ✓

200

NAS1611-005
O-RING

Purchased

No

230

Each

140.0000

8

8

12/07/25

Location

Loc Qty

Loc Code

FP001

140

106099

18

114220 ✓

46

119438

36

121415

40

Monday, July 09, 2012 3:49:33 PM

Shop Packet Print

Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:49:33 PM

Page 12

Work Order ID: 87012

Parent Item: D350-636-014

Parent Item Name: Skidtube RH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

416.0000

8

8

O-RING

8 8 12/07/25

Location

Loc Qty

Loc Code

FP001

416

110915

14

117460

8

118077

1

118612

3

119438

47

121259

2

121584

2

121723

39

122151 ✓

300

Monday, July 09, 2012 3:49:33 PM

Shop Packet Print

Page 12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL), WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS, ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515HBL; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PA	DART AEROSPACE USA, INC.	
DRAWN	RA	PORT HADLOCK, WA	
CHECKED	AK	DRAWING NO.	REV. F
MFG. APPR.	AK	D2750	SHEET 1 OF 11
APPROVED	AK	TITLE	SCALE
DE APPR.	AK	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

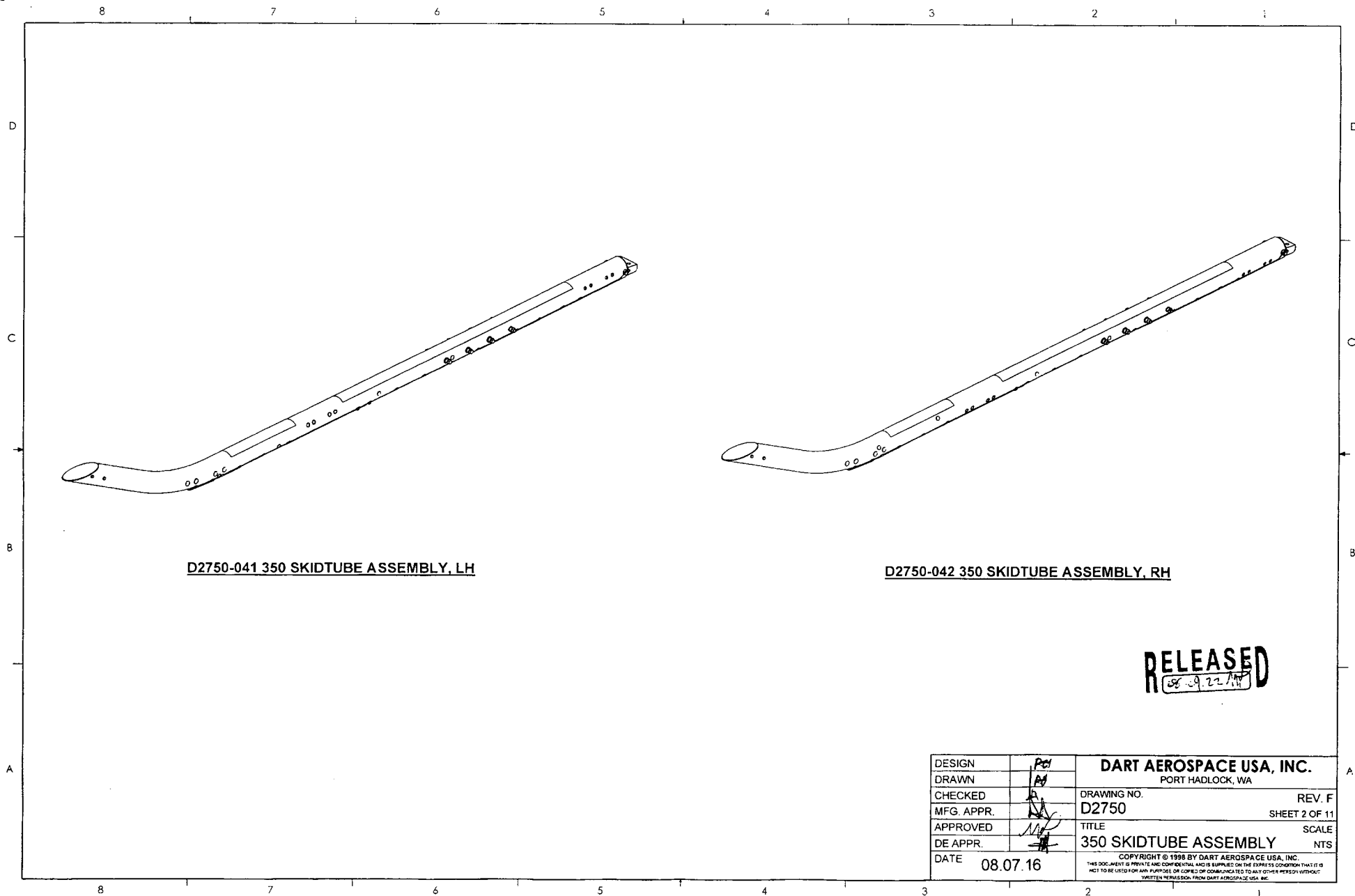
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
100-22-111

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	LA	PORT HADLOCK, WA	
CHECKED	LA	DRAWING NO.	REV. F
MFG. APPR.	LA	D2750	SHEET 2 OF 11
APPROVED	LA	TITLE	SCALE
DE APPR.	LA	350 SKIDTUBE ASSEMBLY	
DATE	08.07.16	NTS	
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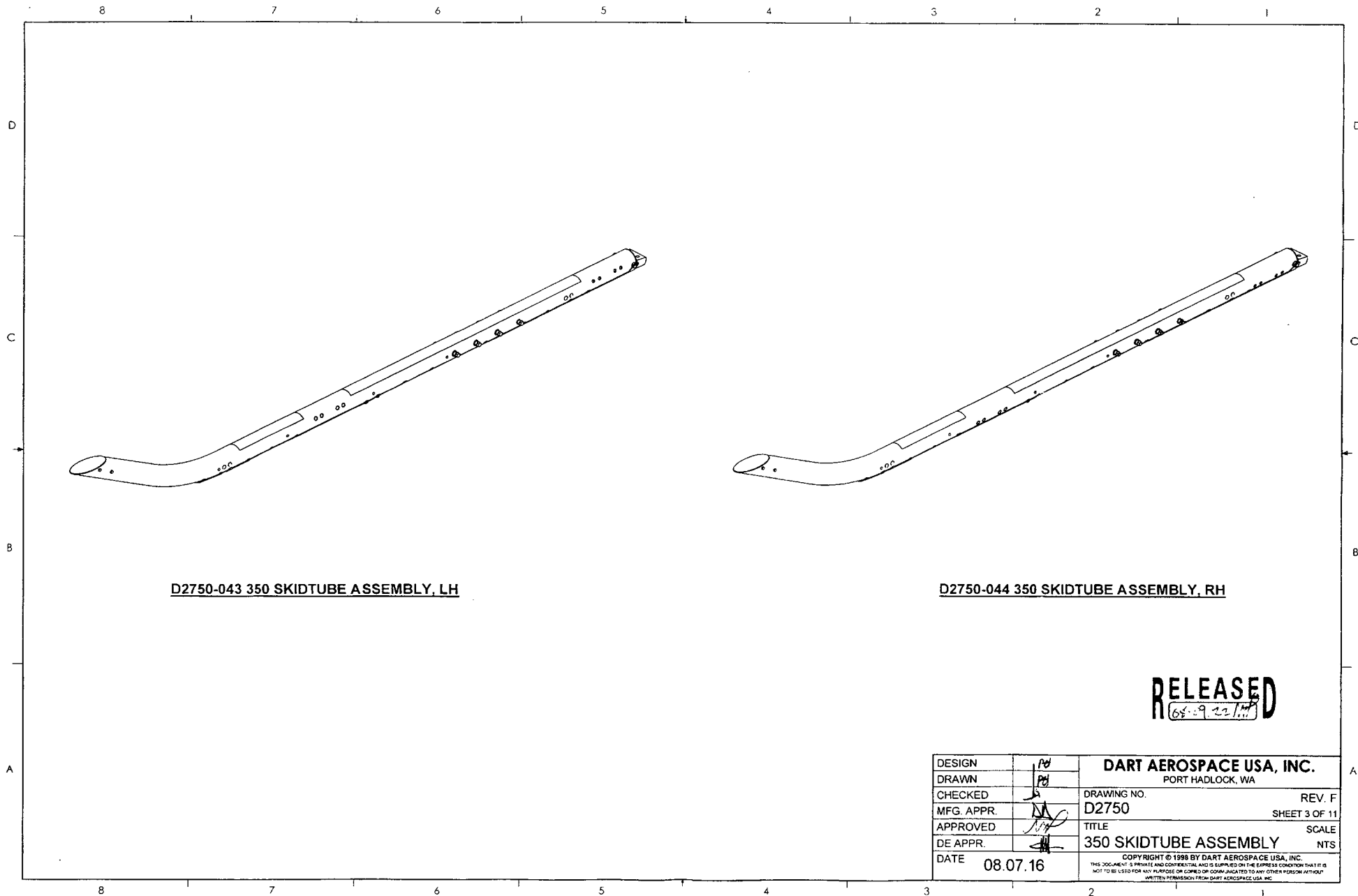
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASED
 68-09-22/11

DESIGN	PD	DART AEROSPACE USA, INC.	
DRAWN	PD	PORT HADLOCK, WA	
CHECKED	NA	DRAWING NO.	REV. F
MFG. APPR.	NA	D2750	SHEET 3 OF 11
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

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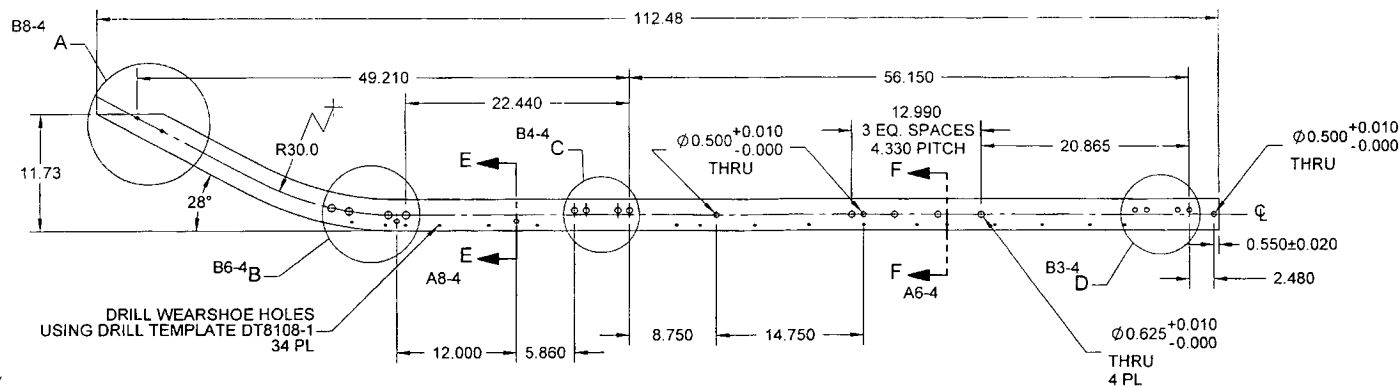
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

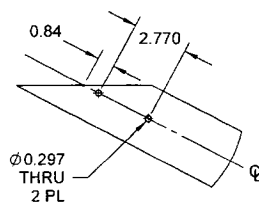
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

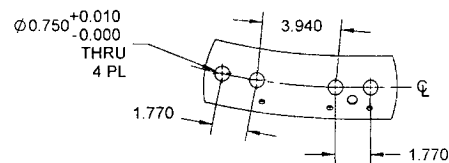
NOTE: Date & initial all entries



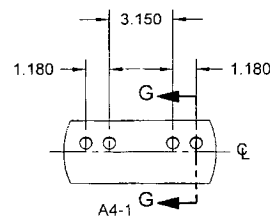
D2750-1 LH SKIDTUBE



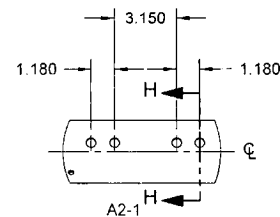
DETAIL A
SCALE 2X



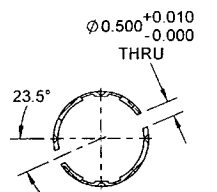
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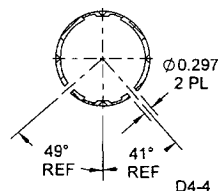
DETAIL C
SCALE 2X



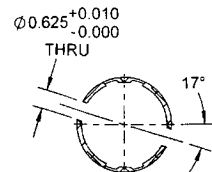
DETAIL D
SCALE 2X



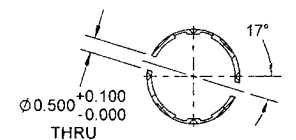
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

DESIGN	PM
DRAWN	PM
CHECKED	PM
MFG. APPR.	PM
APPROVED	PM
DE APPR.	PM
DATE	08.07.16

DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWING NO. D2750	REV. F
TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
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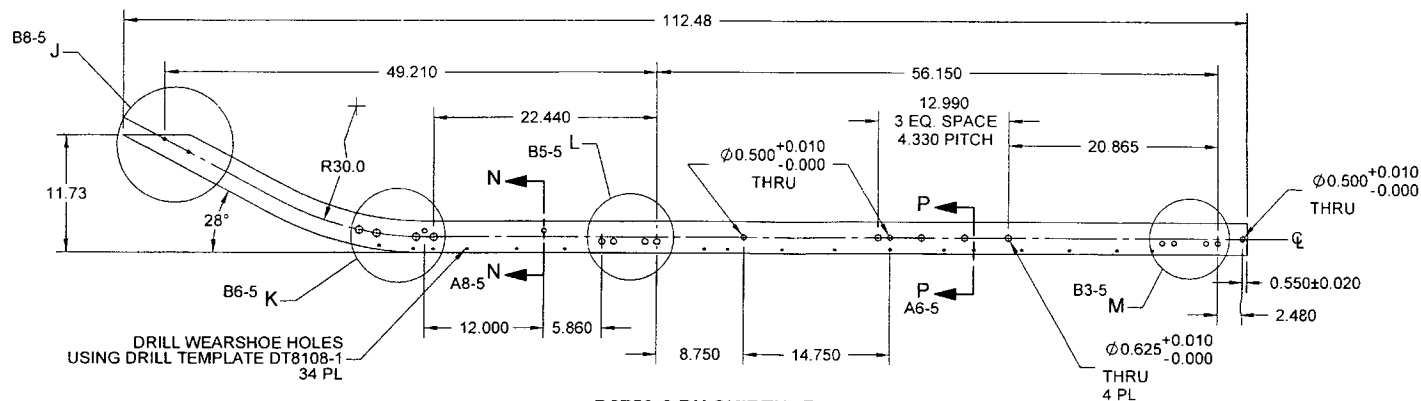
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

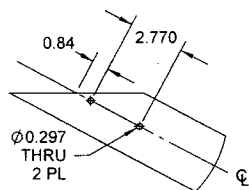
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

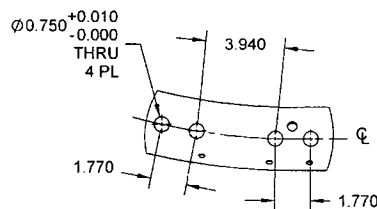
NOTE: Date & initial all entries



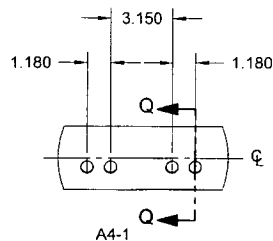
D2750-2 RH SKIDTUBE



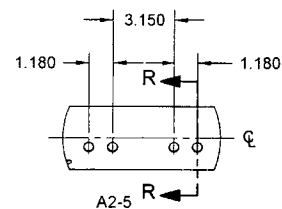
DETAIL J
SCALE 2X



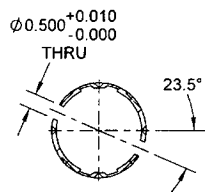
DETAIL K
SCALE 2X



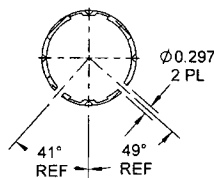
DETAIL L
SCALE 2X



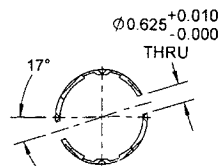
DETAIL M
SCALE 2X



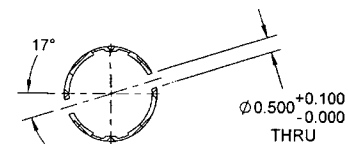
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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08-12-11

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MFG. APPR.	PA	D2750	SHEET 5 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

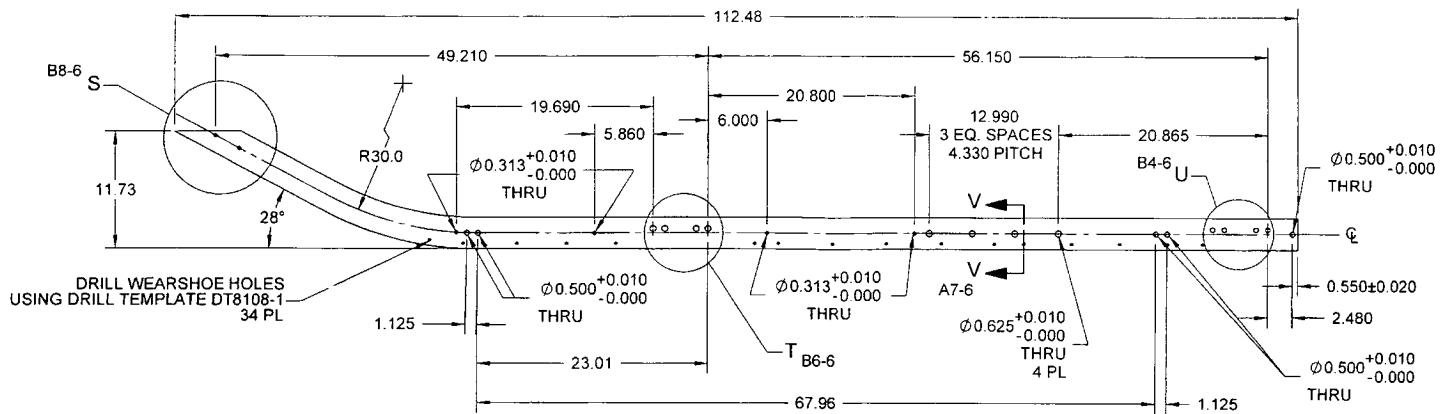
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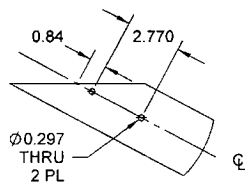
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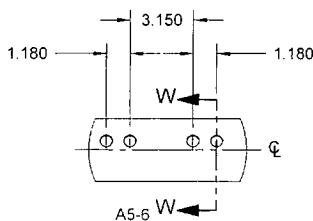
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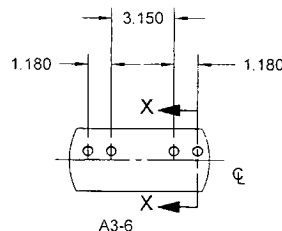
D2750-3 LH SKIDTUBE



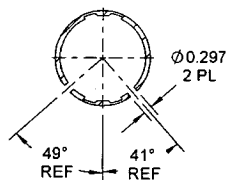
DETAIL S
SCALE 2X



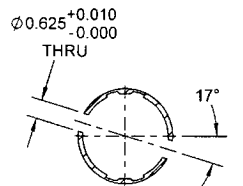
DETAIL T
SCALE 2X



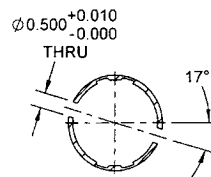
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

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MFG. APPR.		D2750	SHEET 6 OF 11
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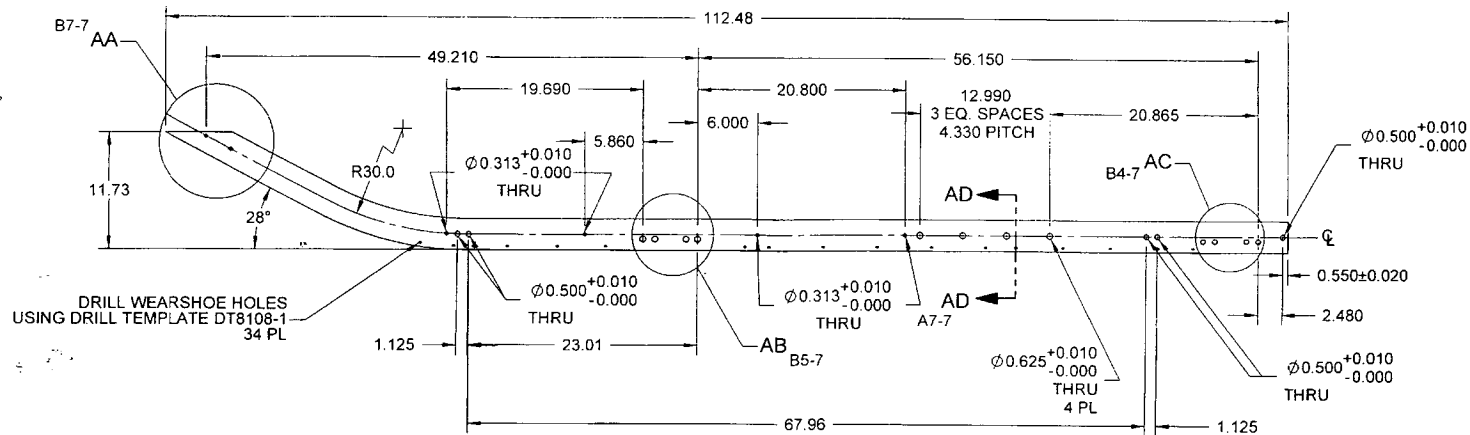
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

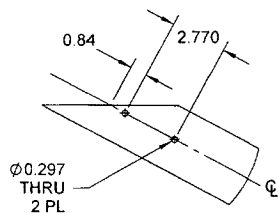
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

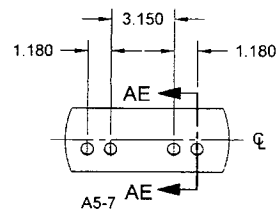
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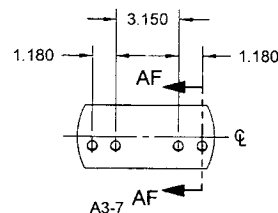
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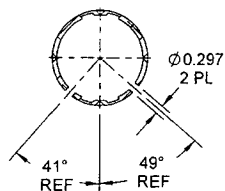
DETAIL AA
SCALE 2X



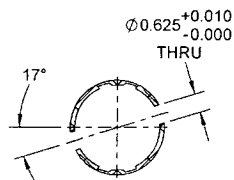
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SCALE 2X



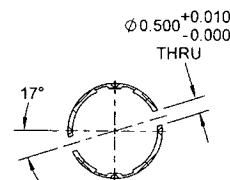
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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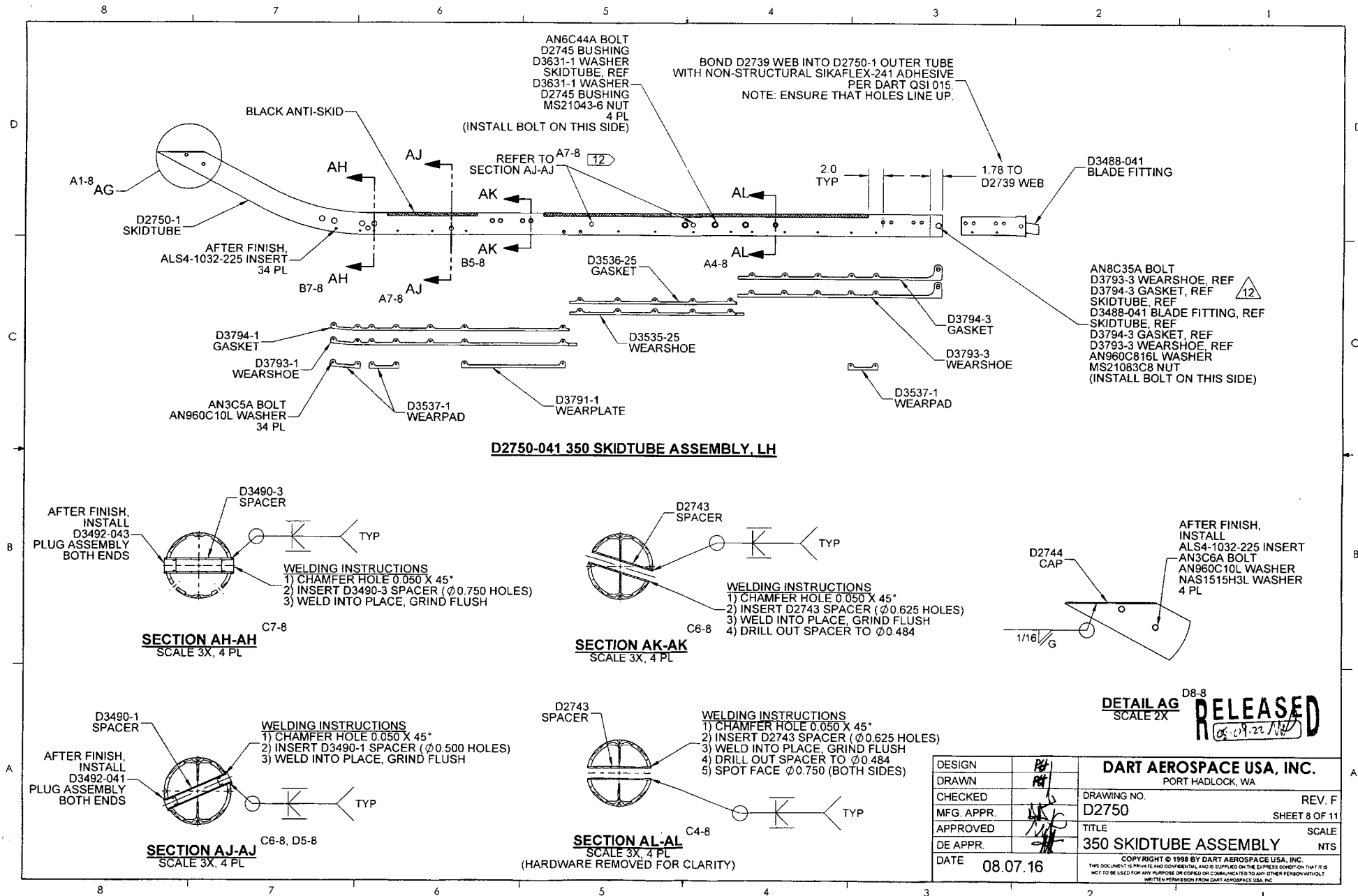
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

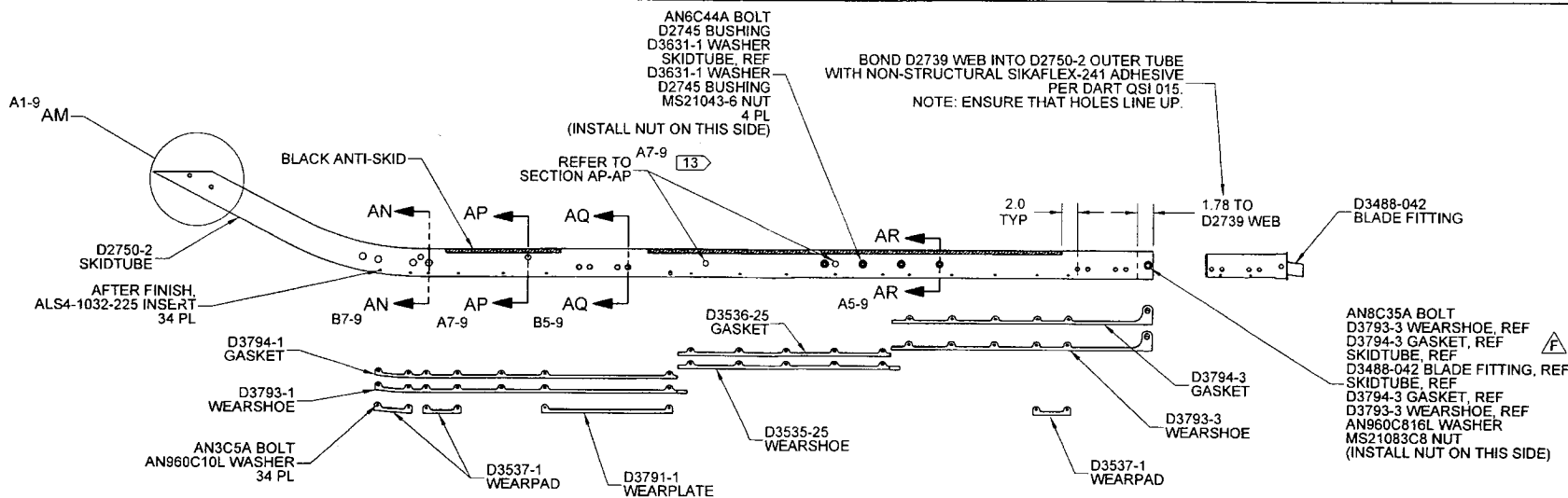
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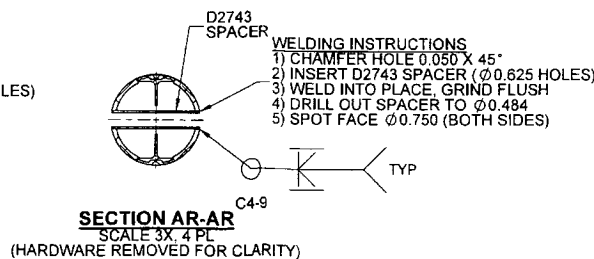
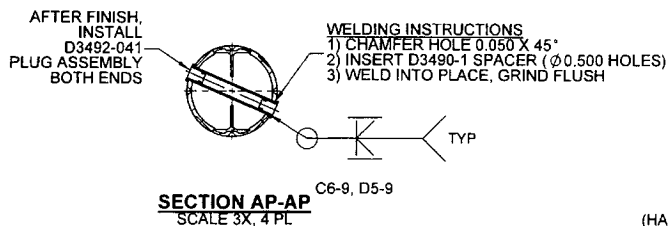
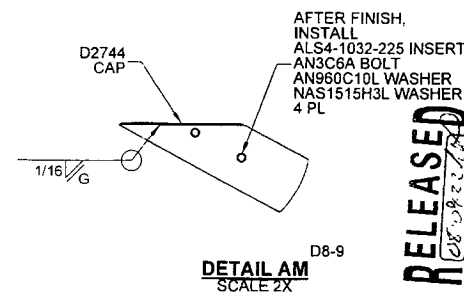
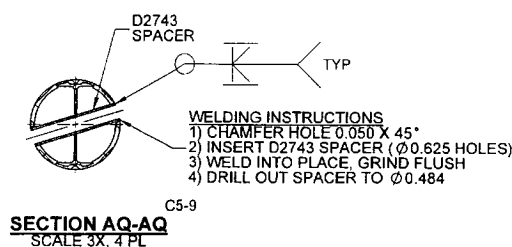
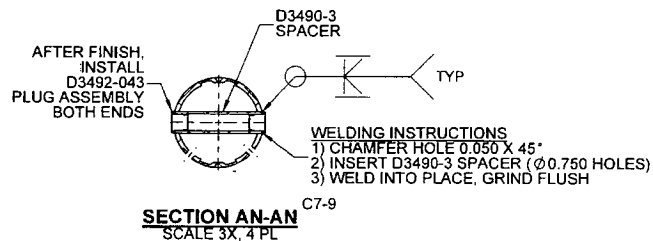
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



D2750-042 350 SKIDTUBE ASSEMBLY, RH



DESIGN	PH	DART AEROSPACE USA, INC.	
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MFG. APPR.		TITLE	SHEET 9 OF 11
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2018-09-21

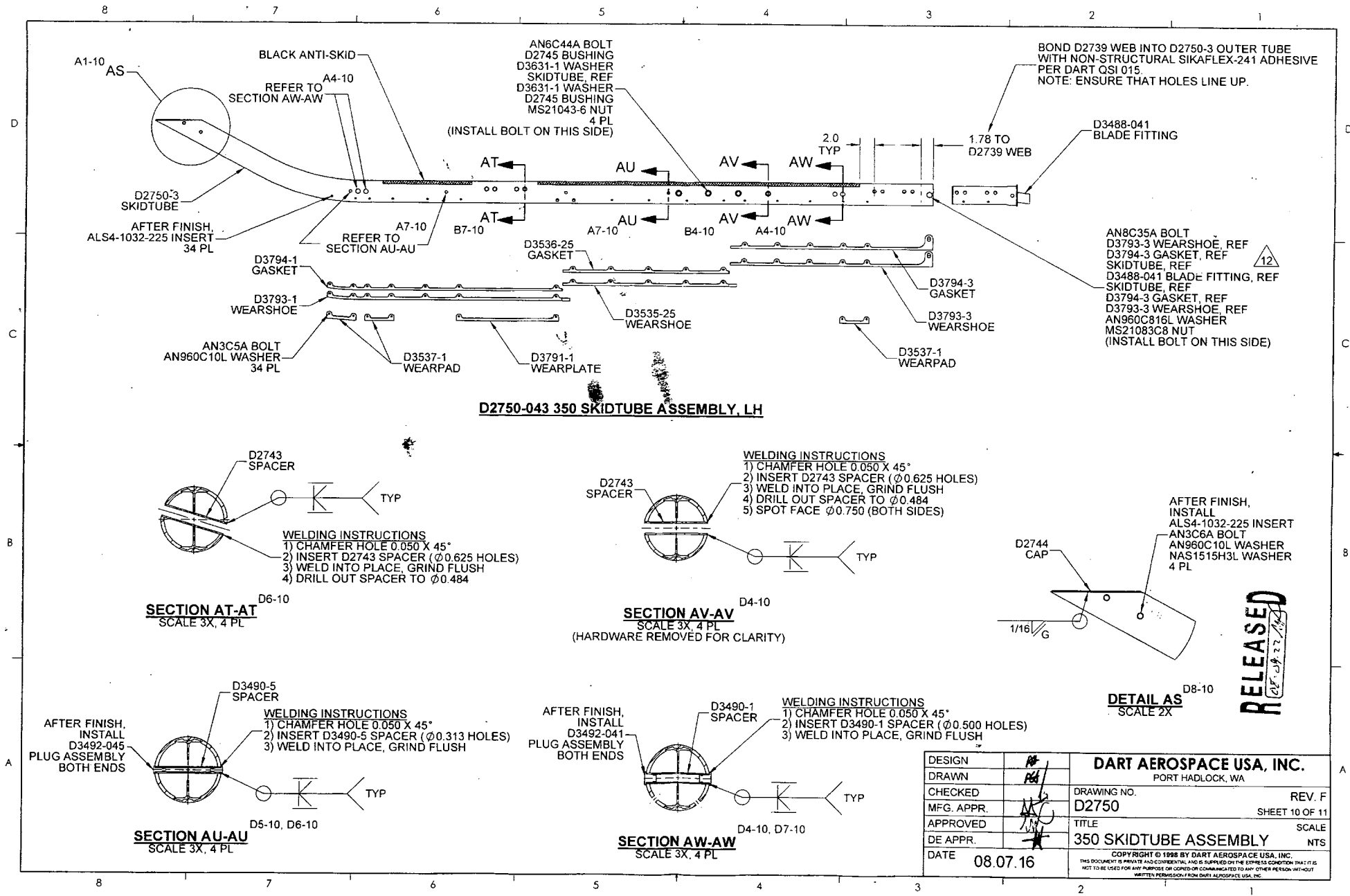
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



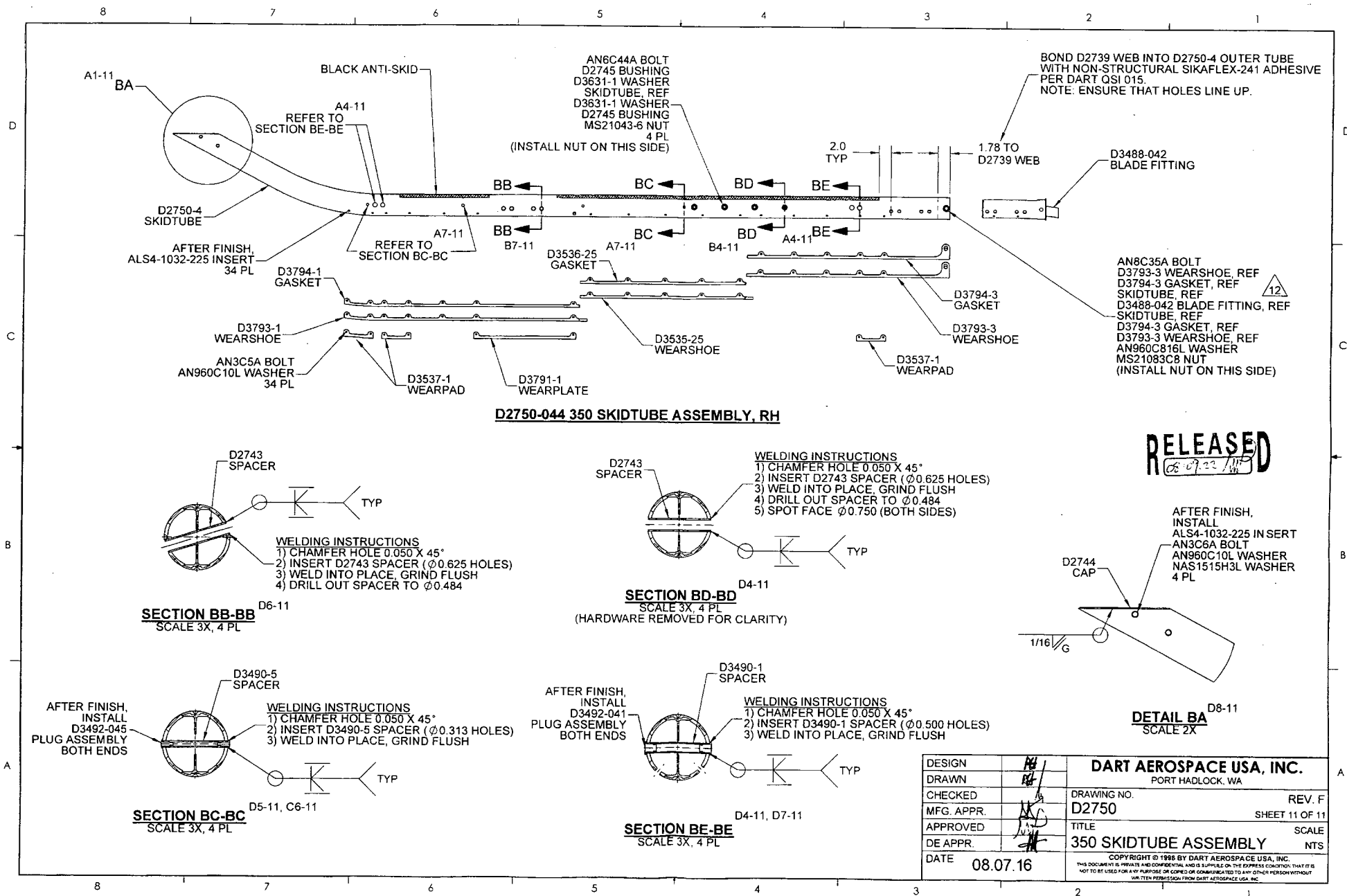
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 298

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 87012
Part #: A350-636-014
Description: Skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Alum. in.
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Incomplete Penetration:	pass	<input type="checkbox"/>	fail	<input type="checkbox"/>
Incomplete Fusion:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Cracks:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Overlap (cold lap)	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Undercut:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Pin holes:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Porosity (surface):	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Coloration:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Burn through:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>

Qualifier David Reed Date of Test Coupon 12.07.23

Welder Barclay Elliott Date of Test Coupon 12-07-23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld